SITE ASSESSMENT REPORT
FOR
PRAIRIELAND STEEL COMPANY
HAVANA, MASON COUNTY, ILLINOIS
TDD: S05-9601-024
PAN: 6J2401SI

March 18, 1996

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EMERGENCY AND ENFORCEMENT RESPONSE BRANCH
77 West Jackson Boulevard
Chicago, Illinois 60604

Prepared by: _____ Date: 3-18-96
for Ronald W. Bugg, START Project Manager

Reviewed by: _____ Date: 3-18-96
M.J. Ripp, Assistant START Program Manager

Approved by: _____ Date: 3-18-96
for Thomas Kouris, START Program Manager

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TABLE OF CONTENTS

LISTS OF FIGURES

1. INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Technical Assistance Team (TAT) to assist the U.S. EPA On-Scene Coordinators (OSCs), Sonja Vega and Fred Bartman, in performing a site assessment (SA) of the Prairieland Steel Company (PLS) site in Havana, Illinois. TAT was requested under Technical Direction Document (TDD) T05-9512-019 to prepare and implement a Health and Safety Plan, compile background information, conduct a site assessment, perform air monitoring and sampling, and document on-site activities. The SA report was completed under the Superfund Technical Assessment and Response Team (START) contract TDD S05-9601-024.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The PLS site is located is located at 550 Pear Street, in Havana, Mason County, Illinois, and is surrounded to the south, east, and west by residential area (Figure 2-1). Approximately 0.1 mile north of the site is Route 10, and the site is approximately 0.25 mile east of the Illinois River. The site is presently an active facility which cleans industrial strength wire (0.25 to 0.5 inches in diameter). Prior to 1990, the process at PLS involved drawing raw material stock 304 and 316 stainless steel through dies to give the wire the desired shape and thickness.

Electric motors were used to pull the wire through the redraw device, and lead dross was used as the lubricant. The initial wire cleaning included placing the wire in a dilution mixture of nitric acid and water, which had a pH of approximately 1 specific unit. Flux tanks were used during the lead pot process, and contained ammonium chloride and water. This enabled the lead from the lead pot process to better adhere to the wire. During the lead pot process, lead was dropped onto the wire to act as a lubricant. Wire was wound by pulling it by a spool during the final pass of the process. It took the wire multiple passes through the devices to reach the desired thickness and shape required for the final product. At one time, 1,1,1-trichloroethane (TCE) cleaner was used as a degreaser during the final step. To soften the steel and enable the wire to be malleable when reworked, an annealing process was performed. This process was accomplished by heating the wire in an electric furnace while in an ammonious atmosphere.

2.2 SITE HISTORY

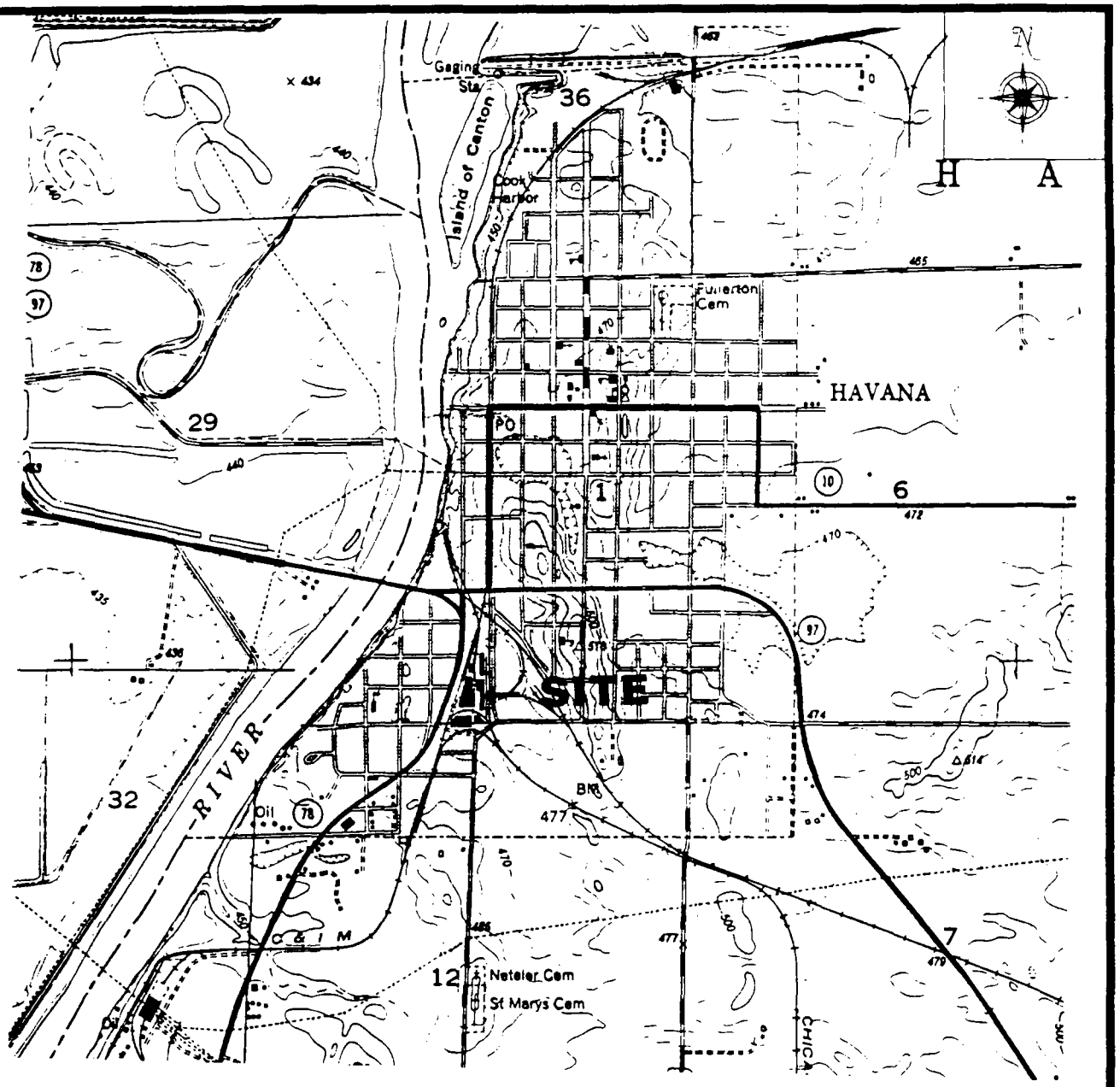
Prior to 1887, the facility operated as the Havana Press Drill Works. At the turn of the century, the site was transferred to the Havana Metal Wheel Company. The company dissolved in 1948 and the property was divided into two manufacturing facilities. Prairie Steel Company obtained the property on the west side of Pear Street. Prairie Steel Company was incorporated in 1959 and

was dissolved in 1986. Mr. John Dupuy purchased Prairie Steel Company on October 25, 1985, and formed Prairieland Steel.

The facility notified the Illinois Environmental Protection Agency (IEPA) that as Prairie Steel, Inc., it was a generator of hazardous waste under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) on August 18, 1980. The former president of Prairie Steel signed the Resource Conservation and Recovery Act (RCRA) Part A permit application and submitted it on October 10, 1980. The Part A permit noted Prairie Steel, Inc., as a storage facility of K063 (delisted wastewater at 8,600,000 pounds/year). IEPA inspected the facility in 1981 and determined the facility to be a small quantity generator. However, in 1990, an IEPA inspection had shown the site to be a large quantity generator operating as an illegal hazardous waste storage facility.

During the 1990 IEPA inspection of PLS, samples were collected of the undetermined waste on site. The results from IEPA indicated that hazardous wastes were stored in the back rooms. The waste included TCE, tetrachloroethene, lead, and other liquids that were determined to be RCRA hazardous based on pH.

IEPA and the owner's son, Jan Dupuy, conducted another site reconnaissance at PLS in January of 1992. Dupuy's son indicated that the wire cleaning process changed from using nitric acid, TCE, and other hazardous waste to white soap and nonhazardous caustic cleaner. Dupuy also indicated that no waste had left the site since the 1990 IEPA inspection.



Quadrangle Location

Illinois

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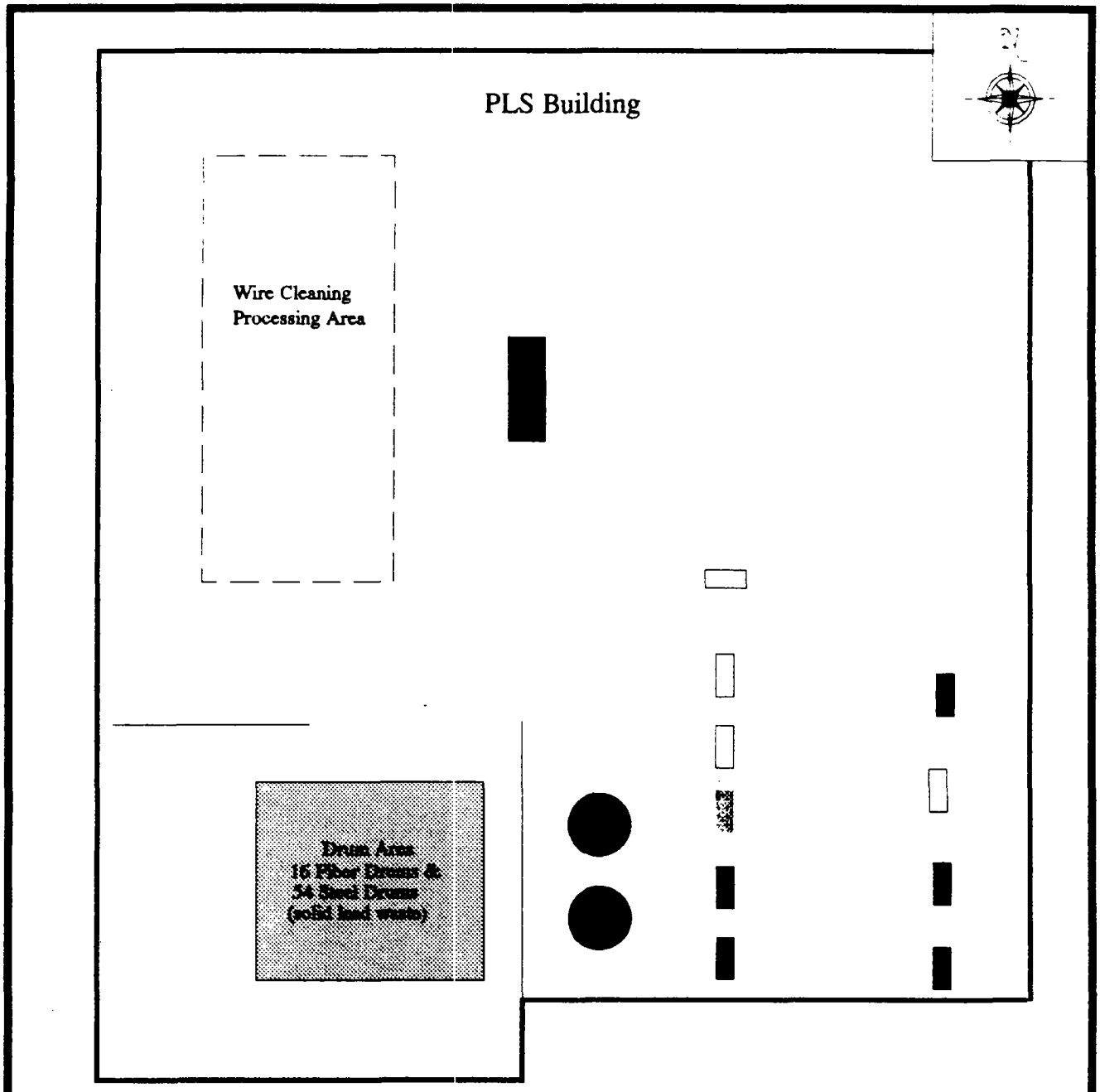
And Response Team
Region V

TITLE: Site Location Map	FIGURE #: 2-1
SITE: Prairieland Steel Co.	SCALE: 1 : 24,000
CITY: Havana STATE: IL	TDD: S05-9601-024
SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Havana, Illinois	DATE: 1947 REVISED:



LEGEND

- Cyclone Container pH = 1
- Vat pH range from 5 to 7
- Vat pH = 1
- Vat pH = 2
- Vat pH = 12

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Region V

TITLE: Site Features Map	FIGURE #: 2-2
SITE: Prairieland Steel Co.	SCALE: Not to Scale
CITY: Havana STATE: IL	TDD: S05-9601-024
SOURCE: Ecology and Environment, Inc.	DATE: 01/12/96 REVISED:

3. SITE ASSESSMENT

On December 18, 1995, TAT member (TATM) Ron Bugg arrived at the PSC site at 1130 hours and met with U.S. EPA OSCs Sonja Vega and Fred Bartman, and IEPA representatives. After a review of the Site Safety Plan, TAT, and OSCs Vega and Bartman performed a site reconnaissance; which included monitoring and establishing the location of the drums on site. The site reconnaissance and discussions with the site owner confirmed the previous IEPA inspection report that stated that drums of TCE were located on site. The site owner stated during the site interview, that the four drums of TCE were sent to a disposal facility and that he had the manifest for the drums. The site reconnaissance confirmed other observations from IEPA's previous inspections. A total of approximately 70 drums (sixteen 55-gallon fiber drums and fifty-four 55-steel drums) were observed on site. From previous information, the drums contained material extracted from the former owners wire cleaning process, which contained lead. During the reconnaissance, approximately 11 vats containing liquid with an estimated volume of 500 to 1,000 gallons per vat, and two cyclones with a volume of approximately 300 gallons per cyclone were located in the southeast corner of the property. The pH of the liquid inside the vats and cyclone containers range from 1 to 12 standard units. Six vats and both cyclones had pH measurements of less than 2 standard units.

TATM Bugg collected two drum samples. Sample FDS-1 was a grab sample of solid material collected from a fiber 55-gallon drum. Sample SDS-1 was a grab sample of solid material collected from a steel 55-gallon drum. Both of the drums were not labeled. The owner informed the reconnaissance group that the lead waste from the old process was placed inside the containers.

Following collection, the two samples were prepared for hand delivery to the laboratory. Chemical analysis of all samples was performed by IEA Laboratories in Schaumburg, Illinois, under TAT Analytical TDD T05-9512-809. An Office of Solid Waste and Emergency Response (OSWER) Quality Assurance (QA) Level 2 was requested from the laboratory, as well as a two-week verbal and three-week hard copy turnaround time on the analytical results.

4. ANALYTICAL RESULTS

Sample SDS-1 was analyzed for pH and sample FDS-1 and SDS-1 were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) RCRA metals. Sample SDS-1 had a pH of 10 standard units and TCLP lead level of 1,600 milligrams per liter (mg/L). Sample FDS-1 exhibited a TCLP lead level of 1.1 mg/L. The analytical data was validated by the TAT Analytical Services Manager and approved for use in this report. See Appendix A for analytical data results.

5. DISCUSSION OF POTENTIAL THREATS

Conditions at the PLS site present an imminent and substantial endangerment to human health and the environment, based upon factors set forth in paragraph (b)(2) of Part 300.415 of the National Oil and Hazardous Substances Contingency Plan (NCP). The following conditions exist at the PLS site:

- **Actual or potential exposure to nearby human population, animals, or the food chain from hazardous substances or pollutants or contaminants.** Site investigations conducted by U.S. EPA and IEPA documented that approximately 74 drums, six vats, and two cyclone containers, full or partially full of hazardous waste, were present on site in an uncontrolled, deteriorating, and in some cases, leaking condition. According to the chemical analysis of drum samples collected during the site assessment, the drum waste contained elevated concentrations of TCLP lead. In addition, on-site screening of liquid waste inside the vats and cyclone containers consisted of liquid with a pH of less than 2 standard units. According to paragraph (a)(1) of 40 Code of Federal Regulations (CFR) Section 261.22, an aqueous liquid with a pH of less than or equal to 2, or greater than or equal to 12.5 standard units, is considered to exhibit the criteria for corrosivity. According to 40 CFR 261.24, a solid waste containing lead exhibiting a characteristic of a TCLP extraction level of equal to or greater than 5.0 mg/L to be considered a hazardous substance. Sample SDS-1 displayed a TCLP lead level of 1,600 mg/L. Site access to trespassers, vandals, and wildlife is only partially restricted. Deteriorating containers of hazardous substances pose a threat of direct contact.

- **Hazardous substances or pollutants or contaminants in drums, barrels, or other bulk storage containers, that may pose a threat of release.** Results of pH screening reveal the presence of corrosive liquids. Many of the containers of hazardous or potentially hazardous material are in poor condition. The uncontrolled and deteriorating state of the drums could pose a further, more significant threat of release and allow contaminants to migrate off site into nearby soils and storm sewer systems.

- **The availability of other appropriate federal or state response mechanisms to respond to the release.** This supports the proposed actions at the facility because IEPA does not have the necessary resources to respond to an emergency situation.

6. SUMMARY

The PLS site is located in a mixed residential area. The majority of the drums on site are located within the warehouse, near the entrance, and are within view from the street when the large garage doors are open. The contents of the drums is a mixture of lead and other material which was discarded during the cleaning process of the wires. Six of the eleven vats, and both cyclone containers, exhibited pH values of less than 2 standard units. The drums, vats, and cyclone containers pose a threat to human health and the environment and should be disposed of in a proper and timely manner.

APPENDIX A

ANALYTICAL DATA PACKAGE

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M E M O R A N D U M

DATE: January 25, 1996

TO: Ron Bugg, START Project Manager, E & E, Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager, E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, Alternate START Leader, E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Review for Toxicity Characteristic Leaching Procedure (TCLP) Metals, Prairieland Steel, Havana, Mason County, Illinois

REFERENCE: Project TDD T05-9601-024 Analytical TDD T05-9512-809
Project PAN 6J2401S1Q0 Analytical PAN EIL0905AAA

The data quality assurance (QA) review of two drum samples collected from the Prairieland Steel site is complete. The samples were collected on December 18, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to IEA Laboratories, Schaumburg, Illinois. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 1311, 6010, and 7470 (mercury).

Sample Identification

TAT Identification No.	Laboratory Identification No.
FDS1	952422001
SDS1	952422002

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on December 18, 1995, and analyzed on December 29 and 31, 1995. Analysis for mercury was performed on January 2, 1996. This is within the six-month holding time limit (28 days mercury).

II. Calibration:

- Initial Calibration: Acceptable

Recoveries for the initial calibration verification were within 90% to 110% (80% to 120% mercury), as required.

- Continuing Calibration: Acceptable

All analytes included in the continuing calibration verification standard were within 90% to 110% (80% to 120% mercury), as required.

III. Blanks: Acceptable

Calibration and preparation blanks were analyzed with each analytical batch. No target analytes were detected in the blanks.

IV. Instrument Interference Check Samples (ICS): Acceptable

The ICSs were analyzed as required and recoveries were within acceptable limits.

V. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use.

ecology and environment, inc.

M E M O R A N D U M

DATE: January 25, 1996

TO: Ron Bugg, START Project Manager, E & E, Chicago, Illinois

FROM: David Hendren, START Analytical Services Manager, E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, Alternate START Leader, E & E, Chicago, Illinois

SUBJECT: Generic Data Quality Review for pH, Prairieland Steel, Havana, Mason County, Illinois

REFERENCE: Project TDD T05-9601-024 Analytical TDD T05-9512-809
Project PAN 6J2401S1Q0 Analytical PAN EIL0905AAA

The data quality assurance (QA) review of one drum sample collected from the Prairieland Steel site is complete. The sample was collected on December 18, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to IEA Laboratories, Schaumburg, Illinois. The laboratory analysis was performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 9045.

Sample Identification

TAT Identification No.	Laboratory Identification No.
SDS1	952422002

Data Qualifications:

I. Sample Holding Time: Acceptable

The sample was collected on December 18, 1995, and analyzed on January 3, 1996. There is no holding time established for this parameter and matrix.

II. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.

IEA
An Aquarion Company

CLIENT:ECOLOGY & ENVIRONMENT
CLIENT PROJECT#:E1L0905AA
CLIENT P.O.#:ZT4051
IEA PROJECT#:CH952422
MATRIX:LEACHATE

TCLP METALS

AB ID#	CLIENT ID	ANALYTE	RESULT	Qual	PQL	REGULATORY LIMIT	UNITS	DIL. FACTOR	DATE DIGESTED	DATE ANALYZED	METHOD
952422001	FDS1										
		Arsenic	UD		0.5	5.0	mg/l	5	12/28/95	12/31/95	6010
		Barium	UD		0.25	100.0	mg/l	5	12/28/95	12/31/95	6010
		Cadmium	UD		0.025	1.0	mg/l	5	12/28/95	12/31/95	6010
		Chromium	UD		0.05	5.0	mg/l	5	12/28/95	12/31/95	6010
		Lead	1.1		0.25	5.0	mg/l	5	12/28/95	12/31/95	6010
		Mercury	U		0.0002	0.2	mg/l	1	12/28/95	01/02/96	7470
		Selenium	UD		0.5	1.0	mg/l	5	12/28/95	12/31/95	6010
		Silver	UD		0.05	5.0	mg/l	5	12/28/95	12/31/95	6010
	Date Sampled: 12/18/95					Date Leached:12/27/95					
52422002	SDS1										
		Arsenic	U		0.1	5.0	mg/l	1	12/28/95	12/29/95	6010
		Barium	0.068		0.05	100.0	mg/l	1	12/28/95	12/29/95	6010
		Cadmium	0.0096		0.005	1.0	mg/l	1	12/28/95	12/29/95	6010
		Chromium	U		0.01	5.0	mg/l	1	12/28/95	12/29/95	6010
		Lead	1600		0.05	5.0	mg/l	1	12/28/95	12/29/95	6010
		Mercury	U		0.0002	0.2	mg/l	1	12/28/95	01/02/96	7470
		Selenium	U		0.1	1.0	mg/l	1	12/28/95	12/29/95	6010
		Silver	U		0.01	5.0	mg/l	1	12/28/95	12/29/95	6010
	Date Sampled: 12/18/95					Date Leached:12/27/95					

IEA
An Aquarion Company

Client ECOLOGY & ENVIRONMENT INC
IEA Job #. CH952422
Project # EIL0905AA
Matrix SOLID

ANALYTE LIST

	Client ID	SDS1						
	Lab ID	952422 002					Date Analyzed	PQL
Analyte	Method							
pH	9045	10					01/03/96	-

PQL = Practical Quantitation Limit.

IEA
An Aquarion Company

Definitions of Data Qualifiers and Terminology

There are a number of data qualifiers that are widely used within the environmental testing industry which may be utilized in our data reports. The following definitions of these qualifiers are included as a service to our clientele. The majority of the qualifiers have evolved from the EPA contract laboratory program (CLP) therefore, they may or may not be appropriate for the particular testing that you have requested. If your work did not involve CLP type analyses, only a few of these items may apply to your particular report.

A - This flag is utilized to indicate that a tentatively identified compound (TIC) is a suspected aldol-condensation product formed during sample processing and caution should be applied in interpreting these results.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to use caution when applying the results of this analyte.

BQL - Below quantitation limit indicates the compound was not detected in the sample above the practial quantitation limit.

C - Indicates that a pesticide identification has been confirmed utilizing GC/MS techniques.

D - Indicates the sample extract was diluted by the factor listed due to the sample matrix and/or concentration levels. All method detection limits or practical quantitation limits for the particular sample are therefore increased by this dilution factor.

E - Indicates that the concentration of the specific compound exceeded the calibration range of the instrument for that particular analysis.

J - Indicates an estimated value. It indicates that the compound was analyzed for and determined to be present in the sample. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meet the identification criteria but the result is less than the sample quantitation limit but greater than zero.

MDL - The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

ND - Indicates the compound or analyte was not detected in the sample above the method detection limit or the practical quantitation limit for the particular analysis.

PQL - The practical quantitation limit is the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine operating conditions.

U - Indicates the compound was analyzed for but not detected in the sample above the applicable quantitation limit.

APPENDIX B

RCMS COST ESTIMATE

Redacted - not relevant to the selection of the removal action.